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REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 316

NONMETALLIC MINERAL ~~MINING AND~~ PROCESSING

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SECTION 300 - STANDARDS

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MARICOPA COUNTY

AIR POLLUTION CONTROL REGULATIONS

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 316

NONMETALLIC MINERAL ~~MINING AND~~ PROCESSING

SECTION 100 - GENERAL

101 PURPOSE: To limit the emission of particulate matter into the ambient air from any nonmetallic ~~mining operation~~ mineral processing plant ~~or~~ and/or rock product processing plant.

102 APPLICABILITY: The provisions of this rule shall apply to any commercial and/or industrial nonmetallic mineral ~~mining~~ processing plant and/or rock product processing plant ~~operation~~. Compliance with the provisions of this rule shall not relieve any person subject to the requirements of this rule from complying with any other federally enforceable New Source Performance Standards. In such case, the more stringent standard shall apply.

SECTION 200 - DEFINITIONS:

~~For the purpose of this rule, the following definitions shall apply:~~ See Rule 100 (General Provisions And Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule. For the purpose of this rule, the following definitions shall apply:

201 AFFECTED OPERATION - An operation that excavates and processes nonmetallic minerals or that is related to such processing and process sources including, but not limited to, crushers, grinding mills, screening equipment, conveying systems, elevators, transfer points, bagging operations, storage bins, enclosed truck and railcar loading stations, and truck dumping.

202 AGGREGATE TRUCK – Trucks with open tops used to transport the products of nonmetallic mineral processing plants and/or rock product processing plants.

~~202~~ **203 APPROVED EMISSION CONTROL SYSTEM -** A system for reducing particulate emissions, consisting of collection and/or control devices which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practice.

204 **AREA ACCESSIBLE TO THE PUBLIC** - Any retail parking lot or public roadway that is open to public travel primarily for the purposes unrelated to the dust generating operation.

~~203~~ **205** **ASPHALTIC CONCRETE PLANT/ASPHALT PLANT -** Any facility used to manufacture asphaltic concrete by mixing graded aggregate and asphaltic cements.

~~204~~ **206** **BAGGING OPERATION -** The mechanical process by which bags are filled with nonmetallic minerals.

~~205~~ **207** **BELT CONVEYOR -** A conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

208 **BERMS AND GUARD RAILS** - A pile or mound of material along an elevated roadway capable of moderating or limiting the force of a vehicle in order to impede the vehicle's passage over the bank of the roadway.

209 **BULK MATERIAL** - Any material, including, but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than 2 inches in length or diameter (i.e., aggregate base course (ABC)), dirt, mud, demolition debris, cotton, trash, cinders, pumice, saw dust, feeds, grains, fertilizers, fluff (from shredders), and dry concrete, that are capable of producing fugitive dust.

~~206~~ **210** **CONCRETE PLANT -** Any facility used to manufacture concrete by mixing water, aggregate, and cement.

~~207~~ **211** **CONVEYING SYSTEM -** A device for transporting materials from one piece of equipment or location to another location within a facility. Conveying systems include, but are not limited to, feeders, belt conveyers, bucket elevators and ~~pneumatic~~ pressure control systems.

~~208~~ **212** **CRUSHER -** A machine used to crush any nonmetallic minerals, including, but not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

213 **DISTURBED SURFACE AREA** - A portion of the earth's surface (or material placed thereupon) which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed native condition, thereby increasing the potential for the emission of fugitive dust.

~~209~~ **214** **DRY MIX CONCRETE PLANT -** Any facility used to manufacture a mixture of aggregate and cements without the addition of water.

215 **DUST SUPPRESSANT** - Water, hygroscopic material, solution of water and chemical surfactant, foam, non-toxic chemical stabilizer, or any other dust palliative, which is not prohibited for ground surface application by the EPA or the Arizona Department of Environmental Quality (ADEQ), or any applicable law, rule, or regulation, as a treatment material for reducing fugitive dust emissions.

~~210~~ **216** **ENCLOSED TRUCK OR RAILCAR LOADING STATION -** That portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

217 **FABRIC FILTER BAGHOUSE** - Tube-shaped filter bags/Long small-diameter fabric tubes referred to as "bags" arranged in parallel flow paths designed to separate particles and flue gas.

218 **FUGITIVE DUST CONTROL MEASURE** - A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of fugitive dust.

219 **FUGITIVE DUST CONTROL TECHNICIAN** - A person with the authority to expeditiously employ sufficient fugitive dust control measures to ensure compliance with Rule 316 of these rules at an active operation.

~~211~~ **220** **FUGITIVE DUST EMISSION -** Particulate matter ~~that is~~ not collected by a capture system ~~and~~ that is ~~released to and suspended~~ entrained in the ambient air~~.~~ and is caused from human and/or natural activities.

~~212~~ **221** **GRINDING MILL -** A machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

222 **HAUL ROAD** – Any unpaved road that is used by haul trucks to carry materials from the quarry to different locations within the facility.

223 **HAUL TRUCK** - Any fully or partially open-bodied self-propelled vehicle including any non-motorized attachments, such as but not limited to, trailers or other conveyances that are connected to or propelled by the actual motorized portion of the vehicle used for transporting bulk materials.

224 **INTERNAL ROAD** – Any private paved and unpaved road within the facility's property boundary.

225 **MIXER TRUCK** – Any truck that mixes cement and other ingredients in a drum to produce concrete.

226 **MOTOR VEHICLE** - A self-propelled vehicle for use on the public roads and highways of the State of Arizona and required to be registered under the Arizona State Uniform Motor Vehicle Act, including any non-motorized attachments, such as but not limited to, trailers or other conveyances which are connected to or propelled by the actual motorized portion of the vehicle.

227 **NEW FACILITY** - A facility subject to this rule that has not been mined or excavated by such facility prior to xxxx xx, 2004.

~~213~~ **228** **NONMETALLIC MINERAL -** Any of the following minerals or any mixture of which the majority is any of the following minerals:

~~213.1~~ **228.1** Crushed and broken stone, including limestone, dolomite, granite, rhyolite, traprock, sandstone, quartz, quartzite, marl, marble, slate, shale, oil shale, and shell.

~~213.2~~ **228.2** Sand and gravel.

~~213.3~~ **228.3** Clay including kaolin, fireclay, bentonite, fuller's earth, ball clay, and common clay.

~~213.4~~ **228.4** Rock salt.

~~213.5~~ **228.5** Gypsum.

~~213.6~~ **228.6** Sodium compounds, including sodium carbonate, sodium chloride, and sodium sulfate.

~~213.7~~ **228.7** Pumice.

~~213.8~~ **228.8** Gilsonite.

~~213.9~~ **228.9** Talc and pyrophyllite.

~~213.10~~ **228.10** Boron, including borax, kernite, and colemanite.

~~213.11~~ **228.11** Barite.

~~213.12~~ **228.12** Fluorspar.

~~213.13~~ **228.13** Feldspar.

~~213.14~~ **228.14** Diatomite.

~~213.15~~ **228.15** Perlite.

~~213.16~~ **228.16** Vermiculite.

~~213.17~~ **228.17** Mica.

~~213.18~~ **228.18** Kyanite, including andalusite, sillimanite, topaz, and dumortierite.

~~213.19~~ **228.19** Coal.

~~214~~ **229** **NONMETALLIC MINERAL PROCESSING PLANT -** Any facility utilizing any combination of equipment or machinery that is used to mine, excavate, separate, combine, crush, or grind any nonmetallic mineral, including, but not limited to: lime plants, coal fired power plants, steel mills, asphalt plants, concrete plants, Portland cement plants, and sand and gravel plants. Rock Product Processing Plants are included in this definition.

230 **OPEN AREAS AND VACANT LOTS** - Any of the following described in Section 230.1 through Section 230.4 of this rule. For the purpose of this rule, vacant portions of residential or commercial lots that are immediately adjacent and owned and/or operated by the same individual or entity are considered one open area or vacant lot.

230.1 An unsubdivided or undeveloped tract of land adjoining a developed or partially developed residential, industrial, institutional, governmental, or commercial area.

230.2 A subdivided residential, industrial, institutional, governmental, or commercial lot that contains no approved or permitted buildings or structures of a temporary or permanent nature.

230.3 A partially developed residential, industrial, institutional, governmental, or commercial lot.

230.4 A tract of land, in the nonattainment area, adjoining agricultural property.

231 **OPEN STORAGE PILE -** Any accumulation of bulk material with a 5% or greater silt content which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-01 or other equivalent method approved in writing by the Control Officer and the Administrator of the Environmental Protection Agency (EPA), that the silt content is less than 5%. For the purpose of this rule, the definition of open storage pile does not include berms and guard rails that are installed to comply with 30 Code Of Federal Regulations (CFR) 56.93000.

~~215 PARTICULATE MATTER – Any material, except uncombined water, which has a nominal aerodynamic diameter smaller than 100 microns (micrometers), and which exists in a finely divided form as a liquid or solid at actual conditions.~~

~~216~~ **232** **PARTICULATE MATTER EMISSIONS -** Any and all finely divided solid or liquid materials other than uncombined water released to the ambient air as measured by the applicable state and federal test methods.

233 **PAVE** - To apply and maintain asphalt, concrete, or other similar material to a roadway surface (i.e., asphaltic concrete, concrete pavement, chip seal, or rubberized asphalt).

234 **PORTLAND CEMENT PLANT** - Any facility that manufactures Portland Cement using either a wet or dry process.

235 **PRESSURE CONTROL SYSTEM -** System in which loads are moved in the proper sequence, at the correct time, and at the desired speed through use of valves that control the direction of air flow, regulate actuator speed, and respond to changes in air pressure.

~~217~~ **236** **PROCESS -** One or more operations including those using equipment and technology in the production of goods or services or the control of by-products or waste.

~~218~~ **237** **PROCESS SOURCE -** The last operation of a process or a distinctly separate process which produces an air contaminant and which is not a pollution abatement operation.

238 **PUBLIC ROADWAYS** - Any roadways that are open to public travel.

239 **RUMBLE GRATE** – A system where the vehicle is vibrated while traveling over grates with the purpose of removing dust and other debris.

~~219~~ **240** **SCREENING OPERATION -** A device that separates material according to its size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize material on the mesh surfaces (screens).

241 **SILT** - Any aggregate material with a particle size less than 75 micrometers in diameter, which passes through a No. 200 Sieve.

242 **SPILLAGE** - Any quantity of nonmetallic minerals/materials that spill while being processed or after having been processed by an affected operation, where such spilled nonmetallic minerals/materials can generate or cause fugitive dust emissions.

~~220~~ **243** **STACK EMISSIONS -** The particulate matter emissions that are released to the atmosphere from a capture system through a building vent, stack or other point source discharge.

~~221~~ **244** **STORAGE BIN -** A facility enclosure, hopper, silo or surge bin for the storage of nonmetallic minerals prior to further processing or loading.

245 **TEMPORARY FACILITY** - A facility that occupies a designated site for not more than 180 days in a calendar year.

246 **TRACKOUT** - Any and all bulk materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that have fallen or been deposited onto a paved area accessible to the public.

247 **TRACKOUT CONTROL DEVICE -** A gravel pad, grizzly, wheel washer, rumble grate, paved area, truck washer, or other equivalent trackout control device located at the point of intersection of an unpaved area and a paved area accessible to the public that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of aggregate trucks, haul trucks, and/or motor vehicles that traverse a facility.

~~222~~ **248** **TRANSFER POINT -** A point in a conveying operation where nonmetallic mineral is transferred from or to a belt conveyor except for transfer to a stockpile.

~~223~~ **249** **TRUCK DUMPING -** The unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include, but are not limited to, trucks, front end loaders, skip hoists, and railcars.

250 **TRUCK WASHER** – A system that is usually used by concrete batching facilities to wash the entire surface and the wheels of the mixer truck.

251 **UNPAVED HAUL/ACCESS ROAD** - Any on-site unpaved road used by commercial, industrial, institutional, and/or governmental traffic.

252 **UNPAVED ROAD** – Any roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by Federal, State, county, municipal, or governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public. Internal unpaved roads are private unpaved roads within the facility's property boundary.

253 **URBAN OR SUBURBAN AREA** - The definition of urban or suburban area is included in Section 230 (Definition Of Open Areas And Vacant Lots) of this rule.

~~224~~ **254** **VENT -** An opening through which there is mechanically or naturally induced air flow for the purpose of exhausting air carrying particulate matter.

255 **WHEEL WASHER** – A system that is capable of washing the entire circumference of each wheel of the vehicle.

256 **WIND-BLOWN DUST** - Visible emissions, from any disturbed surface area, that are generated by wind action alone.

257 **WIND EVENT -** When the 60-minute average wind speed is greater than 25 miles per hour.

SECTION 300 - STANDARDS

301 ~~LIMITATIONS~~ **NONMETALLIC MINERAL PROCESSING PLANTS - PROCESS EMISSION LIMITATIONS:** ~~No person~~ The owner and/or operator of a nonmetallic mineral processing plant shall not discharge or cause or allow to be discharged into the ambient air:

301.1 Stack emissions exceeding 7% opacity and containing more than 0.02 grains/dry standard cubic foot (gr/dscf) (50 mg/dscm) of particulate matter. Such stack emissions shall be vented to a properly sized fabric filter baghouse.

301.2 Fugitive dust emissions from any transfer point on a conveying system exceeding 7% opacity.

301.3 Fugitive dust emissions exceeding 15% opacity from any crusher.

301.4 Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping directly into any screening operation, feed hopper, or crusher.

301.5 Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper, or crusher.

301.6 Fugitive dust emissions exceeding 20% opacity from either of the following affected operations or process sources:

a. Truck dumping directly into any screening operation, feed hopper, or crusher; or

b. Crushing and screening facilities. For crushing and screening facilities, the owner and/or operator of a nonmetallic mineral processing plant shall implement all of the following process controls:

(1) Enclose sides of all shaker screens.

(2) Permanently mount watering systems (e.g., spray bars or an equivalent control) on:

(a) Inlet and outlet of all crushers;

(b) Outlet of all shaker screens; and

(c) Outlet of all material transfer points, excluding wet plants.

302 ~~LIMITATIONS~~ **ASPHALTIC CONCRETE PLANTS - PROCESS EMISSION LIMITATIONS:** ~~No person~~ The owner and/or operator of an asphaltic concrete plant shall not discharge or cause or allow to be discharged into the ambient air:

302.1 ~~Stack emissions exceeding 20% opacity and containing more than 0.04 gr/dscf (90 mg/dscm) of particulate matter.~~ For non-rubberized asphaltic concrete plants, stack emissions exceeding 5% opacity and containing more than 0.04 gr/dscf (90 mg mg/dscm) of particulate matter over a 6-minute period. For rubberized asphaltic concrete plants (when using rubberized asphalt only), stack emissions exceeding 20% opacity and containing more than 0.04 gr/dscf (90 mg mg/dscm) of particulate matter over a 6-minute period.

302.2 Fugitive dust emissions exceeding 20% opacity from any other affected operation or process source~~.~~ ,including but not limited to, any of the following affected operations or process sources:

a. Filling cement, lime, and/or fly-ash storage silo(s) to capacity during loading operations. The owner and/or operator of an asphaltic concrete plant shall install an

operational overflow warning system/device on all cement, lime, and/or fly-ash storage silos to alert operators in sufficient time prior to the cement, lime, and/or fly-ash storage silo(s) reaching capacity during loading operations, so that the loading operation can be stopped prior to filling to such a level as to potentially adversely impact the pollution abatement equipment.

b. Asphaltic concrete plants. In addition to complying with the fugitive dust emission limitations described in Section 306 of this rule and implementing fugitive dust control measures described in Section 307.1 through Section 307.9 and in Section 307.11 of this rule, as applicable, the owner and/or operator of an asphaltic concrete plant shall implement all of the following process controls, as applicable:

(1) Drum Dryer Controls: Control and vent exhaust from all drum dryers to a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.

(2) Cement, Lime, And/Or Fly-Ash Storage Silos Controls:

(a) Install on all existing cement, lime, and/or fly-ash storage silos a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.

(b) Install on all new cement, lime, and/or fly-ash storage silos a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf, with an opacity limit of not greater than 5% over a 6-minute period.

303 ~~LIMITATIONS CONCRETE PLANTS AND BAGGING OPERATIONS:~~ **CONCRETE PLANTS AND BAGGING OPERATIONS - PROCESS EMISSION LIMITATIONS:** ~~No person~~ The owner and/or operator of a concrete plant and bagging operation shall not discharge or cause or allow to be discharged into the ambient air:

303.1 Stack emissions exceeding 7% opacity.

303.2 Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping directly into any screening operation, feed hopper, or crusher.

303.3 Fugitive dust emissions exceeding 20% opacity from ~~truck dumping directly into any screening operation, feed hopper, or crusher.~~ any of the following affected operations or process sources, including but not limited to:

a. Truck dumping directly into any screening operation, feed hopper, or crusher.

b. Filling cement, lime, and/or fly-ash storage silo(s) to capacity during loading operations. The owner and/or operator of a concrete plant and bagging operation shall install an operational overflow warning system/device on all cement, lime, and/or fly-ash storage silos to alert operators in sufficient time prior to the cement, lime, and/or fly-ash storage silo(s) reaching capacity during loading operations, so that the loading operation can be stopped prior to filling to such a level as to potentially adversely impact the pollution abatement equipment.

c. Existing cement, lime, and/or fly-ash storage silos. On existing cement, lime, and/or fly-ash storage silos, the owner and/or operator of a concrete plant and bagging operation shall install a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.

d. New cement, lime, and/or fly-ash storage silos. On new cement, lime, and/or fly-ash storage silos, the owner and/or operator of a concrete plant and bagging operation shall install a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf.

e. Mixer loading stations controls. On mixer loading stations controls, the owner and/or operator of a concrete plant and bagging operation shall implement one of the following process controls:

(1) Install a rubber fill tube;

(2) Install a water spray/Install a spray device that eliminates visible emissions;

(3) Install a properly sized fabric filter baghouse or delivery system;

(4) Enclose mixer loading stations such that no visible emissions occur; or

(5) Conduct mixer loading stations in an enclosed process building such that no visible emissions from the building occur during the mixing activities.

f. Cement silo filling processes/loading operations controls. On cement silo filling processing/loading operations controls, the owner and/or operator of a concrete plant and bagging operation shall install a pressure control system designed to shut-off cement silo filling processes/loading operations, if pressure from delivery truck is excessive, as defined in O&M Plan.

304 ~~LIMITATIONS~~ **OTHER ASSOCIATED OPERATIONS:** All other ~~activities~~ affected operations or process sources not specifically listed in Sections 301, 302, or 303 of this rule associated with the ~~mining and~~ processing of nonmetallic minerals, all other fugitive dust emission limitations not specifically listed in Section 306 of this rule, and all other fugitive dust control measures not specifically listed in Section 307 of this rule shall, at a minimum, meet the provisions of Rule 310 of these rules.

305 ~~REQUIREMENT FOR~~ **AIR POLLUTION CONTROL EQUIPMENT AND APPROVED EMISSION CONTROL SYSTEM (ECS)** ~~MONITORING EQUIPMENT~~**:** ~~For the purposes of this rule, an emission control system (ECS) is a system for reducing emissions of particulates, consisting of both collection and control devices, which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practices.~~

305.1 Operation And Maintenance (O&M) Plan Requirements For ECS:

a. An owner ~~or~~ and/or operator of a facility shall provide and maintain, readily available on-site at all times, (an) O&M Plan(s) for any ECS, any other emission processing equipment, and any ECS monitoring devices that are used pursuant to this rule or to an air pollution control permit.

b. The owner ~~or~~ and/or operator of a facility shall submit to the Control Officer for approval the O&M Plan(s) ~~of~~ for each ECS and ~~of~~ for each ECS monitoring device that is used pursuant to this rule.

c. The owner ~~or~~ and/or operator of a facility shall comply with all the identified actions and schedules provided in each O&M Plan.

305.2 Providing And Maintaining ECS Monitoring Devices: An owner ~~or~~ and/or operator of a facility operating an ECS pursuant to this rule shall install, maintain, and calibrate monitoring devices described in the O&M ~~Plan~~ Plan(s). The monitoring devices shall measure pressures, rates of flow, and/or other operating conditions necessary to determine if the control devices are functioning properly.

305.3 O&M Plan Responsibility: An owner ~~or~~ and/or operator of a facility that is required to have an O&M Plan pursuant to ~~subsection 305.1~~ Section 305.1 of this rule must fully comply with all O&M Plans that the owner ~~or~~ and/or operator has submitted for approval, even if such O&M Plans have not yet been approved, unless notified in writing by the Control Officer.

306 FUGITIVE DUST EMISSION LIMITATIONS:

306.1 20% Opacity Limitation: The owner and/or operator of a facility shall not discharge or cause or allow to be discharged into the ambient air fugitive dust emissions exceeding 20% opacity, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules.

306.2 Visible Emission Limitation Beyond Property Line: An owner and/or operator of a facility shall not cause or allow fugitive dust emissions from any active operation, open storage pile, or disturbed surface area associated with such facility such that the presence of such fugitive dust emissions remain visible in the atmosphere beyond the property line of such facility.

306.3 Wind Event: The fugitive dust emission limitations described in Section 306.1 and Section 306.2 of this rule do not apply to dust generating operations not related to the operation of the facility and during a wind event, if the following high wind fugitive dust control measures are implemented, as applicable:

a. For an active operation, implement one of the following, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules:

(1) Cease active operation for the duration of the wind event and, if active operation is ceased for the remainder of the work day, stabilize the area; or

(2) Apply water or other suitable dust suppressant other than water at least twice per hour or in sufficient quantities to meet the stabilization standards described in Section 503 and Section 504 of this rule.

b. For an open storage pile, implement one of the following, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules:

(1) Apply water twice per hour or in sufficient quantities to meet the stabilization standards described in Section 503 and Section 504 of this rule; or

(2) Cover open storage pile with tarps, plastic, or other material such that wind will not remove the covering.

c. For a disturbed surface area, implement one of the following, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules:

(1) Uniformly apply and maintain surface gravel or a dust suppressant other than water; or

(2) Apply water to all disturbed surface areas three times per day. If there is any evidence of wind-blown dust, increase watering frequency to a minimum of four times per day.

306.4 Silt Loading And Silt Content Standards For Unpaved Haul/Access Roads: From unpaved haul/access roads, the owner and/or operator of a facility shall not discharge or allow to be discharged into the ambient air fugitive dust emissions exceeding 20% opacity, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules, and one of the following:

a. Silt loading equal to or greater than 0.33 oz/ft^2; or

b. Silt content exceeding 6%.

306.5 Stabilization Standards:

a. An owner and/or operator of a facility where there exists any open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility shall maintain such open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility, so that such areas meet at least one of the stabilization standards described in Section 306.5(b)(1) through Section 306.5(b)(7) of this rule.

b. An owner and/or operator shall be considered in violation of this rule if any open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility is not maintained in a manner that meets at least one of the standards listed below, as applicable.

(1) Maintain a visible crust;

(2) Maintain a threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements of 100 cm/second or higher;

(3) Maintain a flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%;

(4) Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%;

(5) Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements;

(6) Maintain a percent cover that is equal to or greater than 10% for non-erodible elements; or

(7) Comply with a standard of an alternative test method, upon obtaining the written approval from the Control Officer and the Administrator of the Environmental Protection Agency (EPA).

c. If no activity is occurring on an open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility and if an open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility contain more than one type of disturbance, soil, vegetation, or other characteristics, which are visibly distinguishable, then the owner and/or operator shall test each representative surface separately for stability, in an area that represents a random portion of the overall disturbed conditions of the site, in accordance with the appropriate test methods described in Section 503 and Section 504 of this rule and in Appendix C (Fugitive Dust Test Methods) of these rules and include or eliminate it from the total size assessment of disturbed surface area(s) depending upon test method results.

307 FUGITIVE DUST CONTROL MEASURES:

307.1 Open Storage Piles And Material Handling: The owner and/or operator of a facility shall implement all of the following fugitive dust control measures, as applicable, in compliance with Section 306.2 and Section 306.5 of this rule. For the purpose of this rule, open storage piles and material handling does not include berms and guard rails that are installed to comply with 30 CFR 56.93000. However, such berms and guard rails shall be installed and maintained in compliance with Section 306.2 and Section 306.5 of this rule.

a. Prior to and/or while conducting stacking, loading, and unloading operations, implement one of the following fugitive dust control measures:

(1) Spray material with water, as necessary; or

(2) Spray material with a dust suppressant other than water, as necessary.

b. When not conducting stacking, loading, and unloading operations, implement one of the following fugitive dust control measures:

(1) Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the covering;

(2) Spray material with water, as necessary;

(3) Meet one of the stabilization standards in Section 306.5 of this rule; or

(4) Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%. If complying with this work practice, the owner and/or operator of such facility shall also comply with the soil moisture content in Section 307.1(b)(3) of this rule or the stabilization standards in Section 306.5 of this rule.

c. When installing new open storage piles at an existing facility and/or when installing new open storage piles at a new facility, the owner and/or operator shall implement all of the following fugitive dust control measures in compliance with Section 306.2 and Section 306.5 of this rule, only if it is determined to be feasible on a case-by-case basis through the Dust Control Plan by assessing the amount of open land available at the property at the time the new open storage piles are formed:

(1) Install the open storage pile(s) at least 25 feet from the property line.

(2) Limit the height of the open storage pile(s) to less than 45 feet.

d. For existing open storage piles and when installing an open storage pile for an existing facility or for a new facility, if such open storage pile will be constructed over eight feet high and will not be covered, then the owner and/or operator shall install a road that is bladed to the top of such open storage pile to allow water truck access or shall install, use, and maintain a sprinkler irrigation system that is capable of complete open storage pile coverage.

307.2 Surface Stabilization Where Support Equipment And Vehicles Operate: The owner and/or operator of a facility shall stabilize surface soils where loaders, support equipment, and vehicles will operate by implementing one of the following fugitive dust control measures, in compliance with Section 306.5 of this rule:

a. Pre-water surface soils.

b. Apply and maintain a dust suppressant other than water.

307.3 Unpaved Haul/Access Roads:

a. The owner and/or operator of a facility shall implement one of the following fugitive dust control measures, as applicable, in compliance with Section 306.3 of this rule, before engaging in the use of, or in the maintenance of, unpaved haul/access roads:

(1) Install and maintain bumps, humps, or dips for speed control and apply water, as necessary.

(2) Apply water, as necessary.

(3) Pave.

(4) Apply and maintain gravel, recycled asphalt, or other suitable material.

(5) Apply a suitable dust suppressant, as necessary.

(6) Limit vehicle speeds.

307.4 Unpaved Roads At Temporary Facilities: On all entries, exits, and main traffic routes associated with a temporary facility, an owner and/or operator of such temporary facility shall not be required to pave or cover with a cohesive hard surface (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water) but shall implement one of the following fugitive dust control measures, in compliance with Section 306.3 of this rule:

a. Apply water, as necessary; or

b. Apply a dust suppressant, other than water, as necessary.

307.5 Unpaved Roads At New Facilities: The owner and/or operator of a new facility shall maintain a minimum distance of 25 feet from the property line for unpaved roads associated with such facility, except for entrances and exits to the facility.

307.6 **Trackout:** The owner and/or operator of a facility shall implement and/or comply with all of the following fugitive dust control measures:

a. At all exits onto paved areas accessible to the public, install, maintain, and use a trackout control device in accordance with all of the following:

(1) A rumble grate, wheel washer, or truck washer shall be located no less than 30 feet prior to each exit that is used by aggregate and/or mixer trucks and leading to a paved area accessible to the public;

(2) All aggregate and/or mixer trucks leaving the facility shall go through a rumble grate, wheel washer, or truck washer;

(3) Signs shall be posted by the rumble grate, the wheel washer, or the truck washer to restrict the speed limit to 5 miles per hour for using such trackout control device;

(4) If the internal road from the rumble grate, the wheel washer, or the truck washer to any paved area accessible to the public is unpaved, a gravel pad shall be installed and maintained from the rumble grate, the wheel washer, or the truck washer to such paved area accessible to the public.

b. Clean up trackout immediately, when trackout extends a cumulative distance of 25 linear feet or more from all exits onto paved areas accessible to the public. Clean up trackout at the end of the workday for all other trackout.

c. Determine the appropriate trackout control device(s) that is/are deemed acceptable through an approvable Dust Control Plan, after considering the stabilization of the roads, any unpaved shoulders that off-site traffic must cross in order to enter and exit the facility, and property ownership (i.e., if property is being leased or if property is owned by a municipality or another business).

307.7 **Paving Entries, Exits, And Internal Roads:** The owner and/or operator of a facility shall pave all entries, exits, and internal roads associated with such facility. When paving is determined to be technically infeasible, as approved in the Dust Control Plan, such entries, exits, and internal roads shall be maintained intact and cleaned or controlled through the use

of cohesive hard surfaces (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water).

307.8 **Restricting Trucks To Paved Surfaces:** The owner and/or operator of a facility shall require all trucks, including but not limited to aggregate trucks, enclosed trucks, haul trucks, and/or mixer trucks, to remain on paved surfaces or cohesive hard surfaces (e.g., 1 inch rock, recycled asphalt, magnesium chloride, or a dust suppressant other than water), when entering, conducting primary functions, and leaving the facility, as approved in the Dust Control Plan.

307.9 **Pad Construction For Processing Equipment:** The owner and/or operator of a facility shall implement fugitive dust control measures during the construction of pads for processing equipment and shall identify, in the Dust Control Plan, such fugitive dust control measures.

307.10 **Spillage - Concrete Plants And Bagging Operations:** In addition to complying with the fugitive dust emission limitations described in Section 306 of this rule and implementing fugitive dust control measures described in Section 307.1 through Section 307.9 of this rule, as applicable, the owner and/or operator of a concrete plant and bagging operation shall implement one of the following fugitive dust control measures, as applicable, when spillage occurs:

a. Promptly remove any pile of spillage of cement and fly-ash on any internal paved roads; or

b. Maintain in a stabilized condition any pile of spillage of cement and fly-ash on any internal paved roads and remove such pile by the end of each day.

307.11 **Fugitive Dust Control Measures At Night:** The owner and/or operator of a facility shall implement and maintain fugitive dust control measures at night, as approved in the Dust Control Plan.

308 **FUGITIVE DUST CONTROL TECHNICIAN:** The owner and/or operator of a facility with a rated or permitted capacity of 25 tons or more per hour of material shall have in place a Fugitive Dust Control Technician or his designee, who shall meet all of the following qualifications:

308.1 Be authorized by the owner and/or operator of the facility to conduct routine inspections, recordkeeping, and reporting to ensure that all fugitive dust control measures are installed, maintained, and used in compliance with this rule.

308.2 Be authorized by the owner and/or operator of the facility to install, maintain, and use fugitive dust control measures, deploy resources, and shutdown or modify activities as needed.

308.3 Be on-site or be available on-site within 30 minutes.

308.4 Be issued a valid Certificate Of Completion of the Maricopa County Fugitive Dust Control Class.

308.5 Be certified to determine opacity as visible emissions in accordance with the provisions of the EPA Method 9 as specified in 40 CFR, Part 60, Appendix A.

309 DUST CONTROL PLAN: The owner and/or operator of a facility shall submit to the Control Officer a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 306 of this rule/as required by Section 306 of this rule and/or as required in order to prevent fugitive dust emissions from exceeding 20% opacity. The Dust Control Plan shall, at a minimum, contain all the information described in Rule 310 (Fugitive Dust) of these rules. All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310 (Fugitive Dust) of these rules.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

401 ~~O&M PLAN~~ **COMPLIANCE SCHEDULE:** ~~Any owner or operator of a facility employing an ECS device as of April 21, 1999 to meet the requirements of this rule, shall file, by October 18, 1999, an O&M Plan with the Control Officer in accordance with subsection 501.3 of this rule.~~ The newly amended provisions of this rule shall become effective upon adoption of this rule and the following schedule applies:

401.1 ECS O&M Plan: When complying with Section 305 of this rule, an O&M Plan shall be submitted to the Control Officer by May 31, 2005 or three months after rule adoption, whichever comes first.

401.2 Dust Control Plan: When complying with Section 309 of this rule, a Dust Control Plan shall be submitted to the Control Officer by May 31, 2005 or three months after rule adoption, whichever comes first.

401.3 **Pressure Control System:** When complying with Section 303.3(f) of this rule, a pressure control system shall be installed by August 31, 2005 or six months after rule adoption, whichever comes first.

401.4 **Operational Overflow Warning System/Device:** When complying with Section 302.2(a) and/or Section 303.3(b) of this rule, an operational overflow warning system/device shall be installed by August 31, 2005 or six months after rule adoption, whichever comes first.

401.5 **Fugitive Dust Control Technician:** When complying with Section 308 of this rule, a Fugitive Dust Control Technician shall be in place by August 31, 2005 or six months after rule adoption, whichever comes first.

401.6 **Surface Stabilization Where Support Equipment And Vehicles Operate:** When complying with Section 307.2 of this rule, surface stabilization and/or paving shall be completed by August 31, 2005 or six months after rule adoption, whichever comes first.

SECTION 500 - MONITORING AND RECORDS

501 **RECORDKEEPING AND REPORTING:** Any ~~person~~ owner and/or operator of a facility subject to this rule shall comply with the following requirements. Records shall be retained for 5 years and shall be made available to the Control Officer upon request.

501.1 Operational information required by this rule shall be kept in a complete and consistent manner on-site and be made available without delay to the Control Officer upon request.

501.2 Records of the following process and operational information, as applicable, are required:

a. **General Data:** Daily records shall be kept for all days that a ~~plant~~ facility is actively operating. Records shall include all of the following: ~~hours of operation; type of batch operation (wet, dry, central); throughput per day of basic raw materials including sand, aggregate, cement, (tons/day); volume of concrete and asphaltic concrete produced per day; volume of aggregate mined per day (cu. yds./day); composition of a cubic yard of concrete produced (percent cement, sand, aggregate, admixture, water, fly ash, etc.); composition of a cubic yard of asphaltic concrete produced (percent cement, sand, aggregate, gypsum, admixture, water, fly ash, etc.); amount of each basic raw material including sand, aggregate, cement, fly ash delivered per day (tons/day).~~

(1) Hours of operation;

(2) Type of batch operation (wet, dry, central);

(3) Throughput per day of basic raw materials including sand, aggregate, cement (tons/day);

(4) Volume of concrete and asphaltic concrete produced per day;

(5) Volume of aggregate mined per day (cubic yards/day); and

(6) Amount of each basic raw material including sand, aggregate, cement, fly ash delivered per day (tons/day).

b. Additional Data For Dry Mix Concrete ~~Plants~~ Bagging Operations: ~~The number of bags of dry mix produced per day; weight (size) of bags of dry mix produced per day; kind and amount of fuel consumed in dryer (cu. ft./day or gals./day); kind and amount of any back up fuel (if any).~~ Records shall include all of the following:

(1) Number of bags of dry mix produced;

(2) Weight (size) of bags of dry mix produced;

(3) Kind and amount of fuel consumed in dryer (cubic feet/day or gallons/day); and

(4) Kind and amount of any back-up fuel, if any.

c. Control And Monitoring Device Data: ~~Baghouse records shall include dates of inspection, dates and designation of bag replacement, dates of service or maintenance, related activities, static pressure gauge (manometer) hourly readings. Scrubber records shall include dates of service or maintenance related activities; the scrubbing liquid flow rate; the pressure or head loss; and/or any other operating parameters which need to be monitored to assure that the scrubber is functioning properly and operating within design parameters. Records of time, date and cause~~

~~of all control device failure and down time shall also be maintained.~~ Records shall include all of the following:

(1) For a fabric filter baghouse:

(a) Date of inspection;

(b) Date and designation of bag replacement;

(c) Date of service or maintenance related activities; and

(d) Time, date, and cause of fabric filter baghouse failure and/or down time, if applicable.

(2) For a scrubber:

(a) Date of service or maintenance related activities;

(b) Liquid flow rate;

(c) Other operating parameters that need to be monitored to assure that the scrubber is functioning properly and operating within design parameters; and

(d) Time, date, and cause of scrubber failure and/or down time, if applicable.

501.3 ECS O&M Plan Records: An owner ~~or~~ and/or operator of a facility shall maintain ~~a record of the periods of time than an approved ECS is used to comply with this rule. Key system parameters, such as flow rates, pressure drops, and other conditions necessary to determine if the control equipment is functioning properly, shall be recorded in accordance with the approved O&M Plan. The records shall account for any periods when the control system was not operating. The owner or operator of a facility shall also maintain results of the visual inspection and shall record any corrective action taken, if necessary.~~ all of the following records in accordance with an approved O&M Plan:

a. Periods of time that an approved ECS is operating to comply with this rule;

b. Periods of time that an approved ECS is not operating;

c. Flow rates;

d. Pressure drops;

e. Other conditions necessary to determine if the approved ECS is functioning properly;

f. Results of visual inspections; and

g. Correction action taken, if necessary.

501.4 **Dust Control Plan Records:** An owner and/or operator of a facility, when complying with Section 309 of this rule, shall compile, maintain, and retain Dust Control Plan records as described in Rule 310 (Fugitive Dust) of these rules.

502 **COMPLIANCE DETERMINATION - 40 PART 60, APPENDIX A TEST METHODS ADOPTED BY REFERENCE:** The test methods for those subparts of 40 ~~Code Of Federal Regulations (~~CFR~~)~~ Part 60, Appendix A, adopted as of ~~July 1, 1998~~ July 1, 2003, as listed below, are adopted by reference as indicated. This adoption by reference includes no future editions or amendments. Copies of test methods referenced in Section 502 of this rule are available at the Maricopa County Environmental Services Department, 1001 North Central Avenue, Phoenix, Arizona, 85004-1942. When more than one test method is permitted for a compliance determination, then an exceedance of the limits established in this rule, determined by any of the applicable test methods, constitutes a violation of this rule.

502.1 **Grain Loading:** Particulate matter and associated moisture content shall be determined using the applicable EPA Reference Methods 1 through 5, 40 CFR Part 60, Appendix A.

502.2 **Opacity Determination:** Opacity observations to measure the opacity of visible emissions shall be conducted in accordance with the techniques specified in EPA Reference Method 9, 40 CFR Part 60, Appendix A, except the opacity observations for intermittent visible emissions shall require 12 (rather than 24) consecutive readings at 15-second intervals.

503 COMPLIANCE DETERMINATION - SOIL MOISTURE CONTENT AND SOIL COMPACTION CHARACTERISTICS TEST METHODS ADOPTED BY REFERENCE:

503.1 ASTM Method D2216-98 ("Standard Test Method For Laboratory Determination Of Water (Moisture) Content Of Soil And Rock By Mass"), 1998 edition.

503.2 ASTM Method D1557-91 (1998) ("Test Method For Laboratory Compaction Characteristics Of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)"), 1998 edition.

504 COMPLIANCE DETERMINATION - STABILIZATION STANDARDS TEST METHODS ADOPTED BY REFERENCE: The stabilization standards described in Section 306.4 of this rule shall be determined by using the following test methods in accordance with Appendix C (Fugitive Dust Test Methods) of these rules:

504.1 Appendix C, Section 2.3 (Test Methods For Stabilization-Visible Crust Determination) (The Drop Ball/Steel Ball Test) of these rules for a visible crust.

504.2 Appendix C, Section 2.4 (Test Methods For Stabilization-Determination Of Threshold Friction Velocity (TFV)) (Sieving Field Procedure) of these rules for threshold friction velocity (TFV) corrected for non-erodible elements of 100 cm/second or higher.

504.3 Appendix C, Section 2.5 (Test Methods For Stabilization-Determination Of Flat Vegetative Cover) of these rules for flat vegetation cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%.

504.4 Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules for standing vegetation cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%.

504.5 Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules for standing vegetation cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements.

504.6 Appendix C, Section 2.7 (Test Methods For Stabilization-Rock Test Method) of these rules for a percent cover that is equal to or greater than 10%, for non-erodible elements.

504.7 An alternative test method approved in writing by the Control Officer and the Administrator of the EPA.